

IN THE ABSTRACT

Please replace the abstract with the following:

Disclosed are compositions and methods for the sensitive and selective detection of ions using nucleic acid enzymes. A method of detecting the presence of an ion includes contacting a nucleic acid enzyme with a sample suspected of containing the ion, where the enzyme contains a ribonucleotide and is dependent on the ion to produce a product from a substrate, and measuring an amount of the product produced. The ion is Pb<sup>2+</sup>, and is in the presence of other ions.